*Please provide the following information, and submit to the NOAA DM Plan Repository.*

**Reference to Master DM Plan (if applicable)**

*As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.*

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

## 1. General Description of Data to be Managed

### 1.1. Name of the Data, data collection Project, or data-producing Program:

2018 USGS Lidar: Bayou Nezpique, LA

### 1.2. Summary description of the data:

The classified point cloud was produced to meet the specifications detailed in the USGS National Geospatial Program Lidar Base Specification, version 1.2 (2014). This project, overall, consists of a spring 2018 lidar survey collected over an Area of Interest (AOI) in south-central Louisiana covering a total of approximately 3,772 square miles and includes the parishes of Acadia, Jefferson Davis, Allen, Evangeline and portions of St. Landry, Lafayette, Vermillion, Rapides and Calcasieu. Lidar data and derivative products were collected and processed to conform to the USGS National Geospatial Program Lidar Base Specification, version 1.2 (2014) at National Enhanced Elevation Assessment (NEEA) Quality Level 1 (QL1) with an Aggregate Nominal Pulse Spacing ( ANPS) of 0.35 meters or less and Aggregate Nominal Point Density (ANPD) of 8 points per square meter or greater. Deliverable lidar products include: classified lidar point cloud, hydro-flattening breaklines, bare-earth digital elevation models (DEMs), and lidar intensity images.

The NOAA Office for Coastal Management (OCM) downloaded 6 data sets from this USGS site:

ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/

The data sets downloaded were:

| | |
|---|---|
| USGS_LPC_LA_Bayou_Nezpique_B1_2018/ | Number of files: 840 |
| USGS_LPC_LA_Bayou_Nezpique_B2_2018/ | Number of files: 2008 |
| USGS_LPC_LA_Bayou_Nezpique_B3_2018/ | Number of files: 1796 |
| USGS_LPC_LA_Bayou_Nezpique_B4_2018/ | Number of files: 2276 |
| USGS_LPC_LA_Bayou_Nezpique_B5_2018/ | Number of files: 1892 |
| USGS_LPC_LA_Bayou_Nezpique_B6_2018/ | Number of files: 1250 |

These files were processed to the Data Access Viewer (DAV) and https. The total number of files downloaded and processed was 10,062.

Hydro breaklines are also available. These data are available for download at the link provided in the URL section of this metadata record. Please note that these products have not been reviewed by the NOAA Office for Coastal Management (OCM) and any conclusions drawn from the analysis of this information are not the responsibility of NOAA or OCM.

**1.3. Is this a one-time data collection, or an ongoing series of measurements?**
One-time data collection

**1.4. Actual or planned temporal coverage of the data:**
2018-04-05 to 2018-06-08

**1.5. Actual or planned geographic coverage of the data:**
W: -93.132145881, E: -92.170772568, N: 31.05010987, S: 29.841048215

**1.6. Type(s) of data:**
*(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)*
Model (digital)

**1.7. Data collection method(s):**
*(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)*

**1.8. If data are from a NOAA Observing System of Record, indicate name of system:**

**1.8.1. If data are from another observing system, please specify:**

## 2. Point of Contact for this Data Management Plan (author or maintainer)

**2.1. Name:**
NOAA Office for Coastal Management (NOAA/OCM)

**2.2. Title:**
Metadata Contact

**2.3. Affiliation or facility:**
NOAA Office for Coastal Management (NOAA/OCM)

**2.4. E-mail address:**
coastal.info@noaa.gov

**2.5. Phone number:**
(843) 740-1202

**3. Responsible Party for Data Management**

*Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.*

**3.1. Name:**

**3.2. Title:**

Data Steward

**4. Resources**

*Programs must identify resources within their own budget for managing the data they produce.*

**4.1. Have resources for management of these data been identified?**

Yes

**4.2. Approximate percentage of the budget for these data devoted to data management ( specify percentage or "unknown"):**

Unknown

**5. Data Lineage and Quality**

*NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.*

**5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible**

*(describe or provide URL of description):*

Process Steps:

- 2018-03-20 00:00:00 - Florabama Geospatial Solutions (FGS) collected 284 check points (98 Control, 102 NVA, 84 VVA) in different classifications spread throughout the project area. The control point coordinate values for this project are referenced to National Geodetic Survey (NGS) control monuments in the National Spatial Reference System (NSRS). Horizontal datum is referenced to UTM, NAD1983, Zone 15 North. Vertical values represent the North American Vertical Datum of 1988 ( NAVD88). GEOID 12B was used to translate the ellipsoid heights to orthometric heights. FGS used LSU C4G Real Time Network Data Correction Service to determine coordinate values for the survey control points and logged raw data at the rovers for post-processing. FGS also observed static data on 10 base station sites spread evenly throughout the project area. All site calibration points were oberved for at least ten (10) minutes and all LiDAR control points were observed for at least six (6) minutes. A site calibration was performed using the data that was collected via LSU C4G RTN. Existing control throughout and surrounding the project area were evaluated against published values and OPUS solutions held as fixed control. The site calibration was performed using Trimble Business Center Software.
- 2018-06-15 00:00:00 - Firstly, the individual lidar mission points in Leica raw scan format were output to ASPRS LAS format using Leica Cloud Pro software, initially

using as default values those resulting from the last successfully calibrated mission for the lidar scanner system. Subsequently, Bayes StripAlign software (version 2. 04B) was utilized for LiDAR calibration, assessment of calibration validity, and assessment of point cloud alignment to control. If a calibration error greater than allowable according to project specifications is observed within a mission, the roll, pitch and scanner scale corrections that need to be applied to refine the calibration are calculated and the mission in question is reprocessed and re-validated. Additionally, data collected by the lidar unit is reviewed for completeness, acceptable density, and to make sure all data is captured without errors or corrupted values.
- 2018-10-16 00:00:00 - The raw point cloud was segmented into a contiguous set of 1, 000 meter x 1,000 meter tiles based on the U.S. National Grid tiling and naming scheme. After tiling, Terrasolid TerraScan software ground classification routines were run to generate an initial point classification, primarily identifying ground and noise. Subsequent to automated classification, manual review and edit of point classifications was performed to meet project classification specifications. The point classifications used are as follows: 1 - Processed, but unclassified; 2 - Bare-earth ground; 7 - Low Noise; 9 - Water; 10 - Ignored Ground (Breakline Proximity); 17 - Bridge Decks; and, 18 - High Noise. Concurrently with manual point classification, heads-up digitizing of 2D hydro-flattening breaklines of inland streams and rivers with a 100 foot nominal width as well as inland ponds and lakes of 2 acres or greater surface area was performed. Breakline elevation values were then derived from the point cloud and assigned to all inland ponds and lakes, inland pond and lake islands, and inland stream and river islands using TerraModeler functionality. Elevation values were assigned to all inland streams and rivers using TerraScan. All ground (ASPRS Class 2) lidar data falling within the collected inland water body breaklines were then classified as water (ASPRS Class 9) using TerraScan macro functionality. A buffer of 0.3 meters was used around each hydro-flattened feature to de-conflict discreet breakline vertices and segments from lidar ground returns; this was accomplished by reclassifying the ground points within the buffer to Ignored Ground (ASPRS Class 10). LAStools software was used to perform final statistical analysis of the classes in the LAS files, on a per tile level to verify final classification metrics as well as completeness and validity of LAS header information.
- 2020-06-29 00:00:00 - The NOAA Office for Coastal Management (OCM) downloaded 6 data sets from this USGS site: ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/ The data sets downloaded were:
USGS_LPC_LA_Bayou_Nezpique_B1_2018/ Number of files: 840
USGS_LPC_LA_Bayou_Nezpique_B2_2018/ Number of files: 2008
USGS_LPC_LA_Bayou_Nezpique_B3_2018/ Number of files: 1796
USGS_LPC_LA_Bayou_Nezpique_B4_2018/ Number of files: 2276
USGS_LPC_LA_Bayou_Nezpique_B5_2018/ Number of files: 1892
USGS_LPC_LA_Bayou_Nezpique_B6_2018/ Number of files: 1250 These files were processed to the Data Access Viewer (DAV) and https. The total number of files

downloaded and processed was 10,062. The data were in UTM Zone 15 (NAD83 2011), meters, coordinates and NAVD88 (Geoid12B) elevations in meters. The data were classified as: 1 - Unclassified, 2 - Ground, 7 - Low Noise, 9 - Water, 10 - Ignored Ground, 17 - Bridge Decks, 18 - High Noise. OCM processed all classifications of points to the Digital Coast Data Access Viewer (DAV). Classes available on the DAV are: 1, 2, 7, 9, 10, 17, 18. OCM performed the following processing on the data for Digital Coast storage and provisioning purposes: 1. An internal OCM script was run to check the number of points by classification and by flight ID and the gps and intensity ranges. 2. Internal OCM scripts were run on the laz files to convert from orthometric (NAVD88) elevations to ellipsoid elevations using the Geoid 12B model, to convert from UTM Zone 15 (NAD83 2011) coordinates in meters to geographic coordinates, to assign the geokeys, to sort the data by gps time and zip the data to database and to http.

**5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:**

**5.2. Quality control procedures employed (describe or provide URL of description):**

## 6. Data Documentation

*The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.*

**6.1. Does metadata comply with EDMC Data Documentation directive?**

No

**6.1.1. If metadata are non-existent or non-compliant, please explain:**

Missing/invalid information:
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 5.2. Quality control procedures employed
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.4. Approximate delay between data collection and dissemination
- 8.3. Approximate delay between data collection and submission to an archive facility

**6.2. Name of organization or facility providing metadata hosting:**

NMFS Office of Science and Technology

**6.2.1. If service is needed for metadata hosting, please indicate:**

**6.3. URL of metadata folder or data catalog, if known:**

https://www.fisheries.noaa.gov/inport/item/60158

**6.4. Process for producing and maintaining metadata**
*(describe or provide URL of description):*

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

**7. Data Access**

*NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.*

**7.1. Do these data comply with the Data Access directive?**

Yes

**7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?**

**7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:**

**7.2. Name of organization of facility providing data access:**

NOAA Office for Coastal Management (NOAA/OCM)

**7.2.1. If data hosting service is needed, please indicate:**

**7.2.2. URL of data access service, if known:**

https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=9128/details/9128
https://coast.noaa.gov/htdata/lidar4_z/geoid18/data/9128

**7.3. Data access methods or services offered:**

Data is available online for bulk and custom downloads.

**7.4. Approximate delay between data collection and dissemination:**

**7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**

**8. Data Preservation and Protection**

*The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.*

**8.1. Actual or planned long-term data archive location:**
*(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)*

NCEI_CO

**8.1.1. If World Data Center or Other, specify:**

**8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:**

**8.2. Data storage facility prior to being sent to an archive facility (if any):**

Office for Coastal Management - Charleston, SC

**8.3. Approximate delay between data collection and submission to an archive facility:**

**8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?**
*Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection*

Data is backed up to tape and to cloud storage.

**9. Additional Line Office or Staff Office Questions**
*Line and Staff Offices may extend this template by inserting additional questions in this section.*